VIRGINIA WILDLIFE

MAY 2000 ONE DOLLAR

Director's Column

William L. Woodfin, Jr

The warm winds of spring and early summer are beginning to be felt throughout Virginia. As the water temperature of our lakes and rivers become more comfortable, the recreational boaters of the Commonwealth will be contemplating where to spend the weekends and the far too few hours of leisure time we have each week.

Many of you will take to the water in canoes, sailboats, powerboats, and personal watercraft. Anglers will be anxious to launch their boats, as they continue the search for a trophy size fish. Whatever your reason for boating, there is one commonality all boaters have—a deep appreciation for and a sincere respect of the water.

The Commonwealth of Virginia provides tremendous opportunities for water recreation. We are fortunate to have nearly 500 miles of coastline, over 3,200 miles of rivers, and 160 man-made and natural lakes. To facilitate access to our waters, the Department of Game and Inland Fisheries is quite pleased to offer about 225 public boating access areas.

Last year's weather was nearly perfect for the recreational boater. The skies always seemed cloudless and each weekend was warmer than the one before. While the majority of our boaters had an accident-free year, the 200 accident reports we received for 1999 are an indication that we continue to have a lot of work to accomplish in our boating safety education program. Included in the 200 accidents were 21 fatalities. During the previous year, we had 184 accident reports with 20 fatalities.

Personal watercraft (PWCs) represent just under 9 percent of our nearly 240,000 registered boats. While not accounting for a substantial percentage of the number of boats, during the mid to late 1990s, PWCs were involved in up to 40 percent of our accidents. For the past two years, we are pleased to report a decline in the percentage of accidents involving personal watercraft. During that time, we are in the 26-27 percent range. We certainly want that downward trend to continue, and we strongly encourage the operators of personal watercraft to take the extra precautions needed to further reduce the accident rate for this type of boat.

Just as a hunter dresses appropriately for the outdoors so should the boater. And a part of every boater's attire should be a life jacket. From a legal standpoint, wearable personal flotation devices (i.e. life jackets) must be readily accessible, in serviceable condition, of the proper size, and U. S. Coast Guard approved. However, our fatality numbers indicate that about 80 percent of all boating-related drownings could have been prevented if the person had been wearing a life jacket. We ask our boaters to think of a life jacket in the same way that we have become accustomed to thinking about seat belts and air bags in our cars. They will save your life!

To assist our boaters in learning more about safe boating, the Department offers two separate boating courses that are free to the public. *Virginia Boating Basics* and *Personal Watercraft in Virginia* are

both nationally approved and recognized by the U. S. Coast Guard. In addition to these two courses, we also work closely with the U. S. Coast Guard Auxiliary and the U.S. Power Squadrons to sponsor their courses. We ask that you visit our website at **www.dgif.state.va.us** for a listing of available courses. You are also encouraged to get in touch with our State Boating Law Administrator, Charlie Sledd, if you have specific questions about recreational boating in the Commonwealth. Charlie's e-mail address is **csledd@dgif.state.va.us** or call 804-367-6481.

We want you to have a very safe and enjoyable boating season. Take a boating safety education course, watch the weather when boating, do not mix alcohol and boating, and WEAR YOUR LIFE JACKET. Our message to you is a simple one—be responsible, be safe, have fun! Enjoy the first boating season of the new century.

"Boat Smart From the Start. Wear Your Life Jacket"
North American Safe Boating Campaign
May 20 - 26, 2000

Mission Statement

To manage Virginia's wildlife and inland fish to maintain optimum populations of all species to serve the needs of the Commonwealth; to provide opportunity for all to enjoy wildlife, inland fish, boating and related outdoor recreation; to promote safety for persons and property in connection with boating, hunting and fishing.

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For a "shore" cure for your angling blues check out "Shore Fishing in Saltwater," found on page 20.

VIRGINIA WILDLIFE

Cover: Smallmouth bass *(Micropterus dolomieu)*, photo by ©M. L. Giovannetti.

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Dedicated to the Conservation of Virginia's Wildlife and Natural Resources

VOLUME 61 NUMBER 5

The Breaks

by Emily M. Grey

"...there, as nowhere else this side of the Rockies, is the face of nature wild and shy..."

John Fox, Jr.
(describes the Breaks)

Hunters, anglers, and other outdoor enthusiasts naturally head for the Shenandoah region, Smith Mountain Lake, Eastern Shore, and other well-known wild spots in our diverse Commonwealth. While my fellow Virginians and sundry tourists explore and revisit familiar places, this writer often veers off major thoroughfares onto blue byways. On one such excursion last summer, I discovered history, wildlife, and a magnificent feature in an all but forgotten emerald pocket of our state's Southwest Blue Ridge Highlands.

Located on the Virginia–Kentucky border, on the Cumberland Mountain Plateau, is a 4600-acre rugged expanse of mixed forests, caves, hidden springs, crystal lakes, and intriguing rock formations. In 1954, the dual-state legislatures created Breaks Interstate Park. This recreational site in Dickinson and Buchanan counties is reached via State Road 80 and is near the little towns of Haysi and Grundy.

Approximately 250 million years ago, an enormous inland sea covered this entire area and formed sediments. The resulting Pennsylvanian rocks of the Paleozoic Era surround a 1660-foot high area called

©E. M. Grey

the Towers. The Russell Fork, a tributary of the Big Sandy River, which joins the Ohio, has sculpted (and continues to carve) a "break," the deepest gorge east of the Mississippi. Called the Grand Canyon of the South, the sheer rock vertical walls and woodlands of this pristine marvel extend over five miles long and about 1600 feet deep through Pine Mountain. Tales are spun of Englishman John Swift's copious silver treasure hidden in the Towers, a half-mile long, one-third mile wide pyramidal crag. The infamous Hatfield-McCoy feud also occurred in the vicinity. The Shawnee Indians once used Powwow Cave near the Towers to concoct "fire water." There are even accounts of Breaks' finder Daniel Boone and his treks across the precipitous terrain.

The only consideration that prevented the extraordinary site from becoming a national park is the Clinchfield (CSX) Railroad. This engineering maze of bridges and tunnels served as a vital link between the southeast Atlantic coastal states, the Ohio Valley, and the Midwest. Heaped with coal, it still passes regularly through the gorge.

From Towers and Clinchfield Overlooks, one can see breathtaking views of the canyon rim, churning river, caves, and patches of rhododendron. A discerning eye may detect ruffed grouse, Carolina chickadee, tufted titmouse, and red-tailed hawks.

"I have seen a lot of places and there's no other like the Breaks," states Carl Mullins, Park Superintendent.

Thirteen easy to difficult hiking trails spiral around precipitous cliffs, forests, ponds, and grasslands. Walkers and joggers can look for cottontail rabbits, gray squirrels, and white-breasted nuthatches along the paths. At dusk, one can see white-tailed deer grazing along forest edges and little brown and big brown bats flying. Gray and red fox and bobcat may sneak by furtively. From April to September, you may spot an indigo bunting, summer tanager, or broad-winged hawk in the forests.

Virginia's threatened snail, brown supercoil *(Paravitrea septodens)*, and Swainson's warbler *(Limnothlypis swainsonii)* inhabit the park. The latter breeding species summers only in the Dismal Swamp and the humid ravines of Dickinson County.

Signs crop up warning guests not to dig ginseng. Rare yellow and pink lady slippers thrive in the woodsy soil. Other wildflowers include bloodroot, cardinal flower, Dutchman's britches, flame azaleas, herb robin, and blue, Canadian, purple, and white trillium. Ferns and mushrooms also grow along the forest floor.

Over 60 tree species flourish at the Breaks. These hardwoods and softwoods are the remains of Appalachia's glorious virgin forests. Once the hillsides glistened with American chestnut before the blight destroyed this valuable wildlife plant by 1950.

Stunning flowering trees and shrubs include mountain laurel (called ivy), several magnolia species, redbud, flowering dogwood, and the ever-present catawba and rosebay rhododendron. I am told that in autumn the blazing foliage stages an incomparable show. At sunset, the vantage from Stateline Overlook is spellbinding. A protected platform and paved way enables handicapped viewers to admire nature's elegance.

Located on the Virginia-Kentucky border, Breaks Interstate Park is one of Virginia's most diverse natural areas. Known for its incredible scenery and recreational opportunities, the park is also home to a vast array of flora and fauna.

Left and background ©Dwight Dyke

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If you're looking for the finer attributes of exploring the great outdoors and like doing it in style, the park has everything from furnished cabins to an Olympic-size pool. It even has a restaurant and a visitor's center, which caters to large groups and families. Breaks Interstate Park is open year-round and well worth the trip. Photos ©E. M. Grey.

On peaceful 12-acre Laurel Lake hikers, anglers, and boaters can sight beaver, bullfrogs, and waterfowl. The lake and close-by ponds are home to greater and lesser yellowlegs from late April through July and wood duck year-round. The gray tree frog's brief trill and the mountain chorus frog's raspy mating call are easily heard during spring and summer. Laurel Lake is well stocked with bluegill, crappie, and bass. Either a Virginia or Kentucky fishing license will suffice. Angling for trout in the Russell Fork River requires a Virginia permit.

Portions of certain trails can be explored by horseback or mountain bike. Stay alert for flying squirrels, box turtles, and innocuous garter snakes. When the blueberries ripen, an occasional black bear may be seen having his fill.

Breaks Interstate Park is self-contained with its own water and sewage facility. I watched at one trailhead as a couple refilled jugs with fresh, cool spring water. A large conference center, Olympic-sized pool, and playground attract businesses and families. Campsites, motor lodges, and year-round furnished cottages are available. One can dine on the Rhododendron Restaurant deck, while listening for Carolina wren, pileated woodpecker, and wood thrush.

Exhibits at the Visitor Center explain geological features, mountain life, and coal mining, the area's major livelihood. A 19th century reconstructed mountaineer's log cabin, an authentic corn mill, and moonshine still are featured outside. A shaded amphitheater hosts nature slide programs, dramas, gospel singing, and other events. Shelters are ideal for reunions, picnics, weddings, and other gatherings.

On weekends in October, the U.S. Army Corps of Engineers' releases millions of gallons of water from its John W. Flannagan Dam and Reservoir just south of the Breaks. Whitewater rafters, canoeists, and kayakers from all over America challenge themselves with up to Class VI rapids.

An impenetrable fog cloaked the park my last morning. Eastern hemlocks, scrub pines, oaks, and other trees looked like silent giants, motionless in an enchanted forest. Local folk assured me that the haze would pass in an hour and it did. A sprightly fence lizard hastened away as I climbed the stone ramp for the final time. I wonder how many Virginians have visited or even know about this natural wildlife and family sanctuary. A journey to the far corner of the Old Dominion is worth the distance. The Grand Canyon of the South offers a taste of the wild and the comforts of home.

John Fox, Jr., author of *The Trail of the Lonesome Pine*, described this area as "the most isolated spot this side of the Rockies." To linger in the park is to gaze upon the finest still life or lushest garden and to hear a soothing rhapsody or an inspiring poem. These analogies, and many more, are the Breaks. ☐

Emily Grey is a freelance outdoor writer who enjoys writing about her travels in the United States and Canada, but finds there's no better place to live than Virginia.

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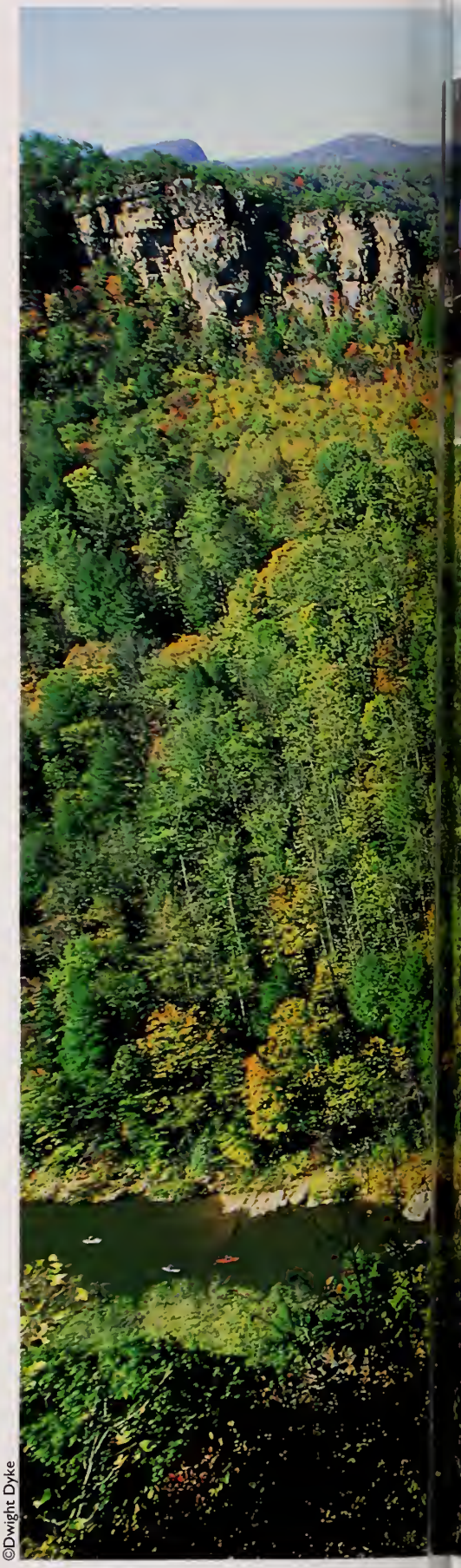

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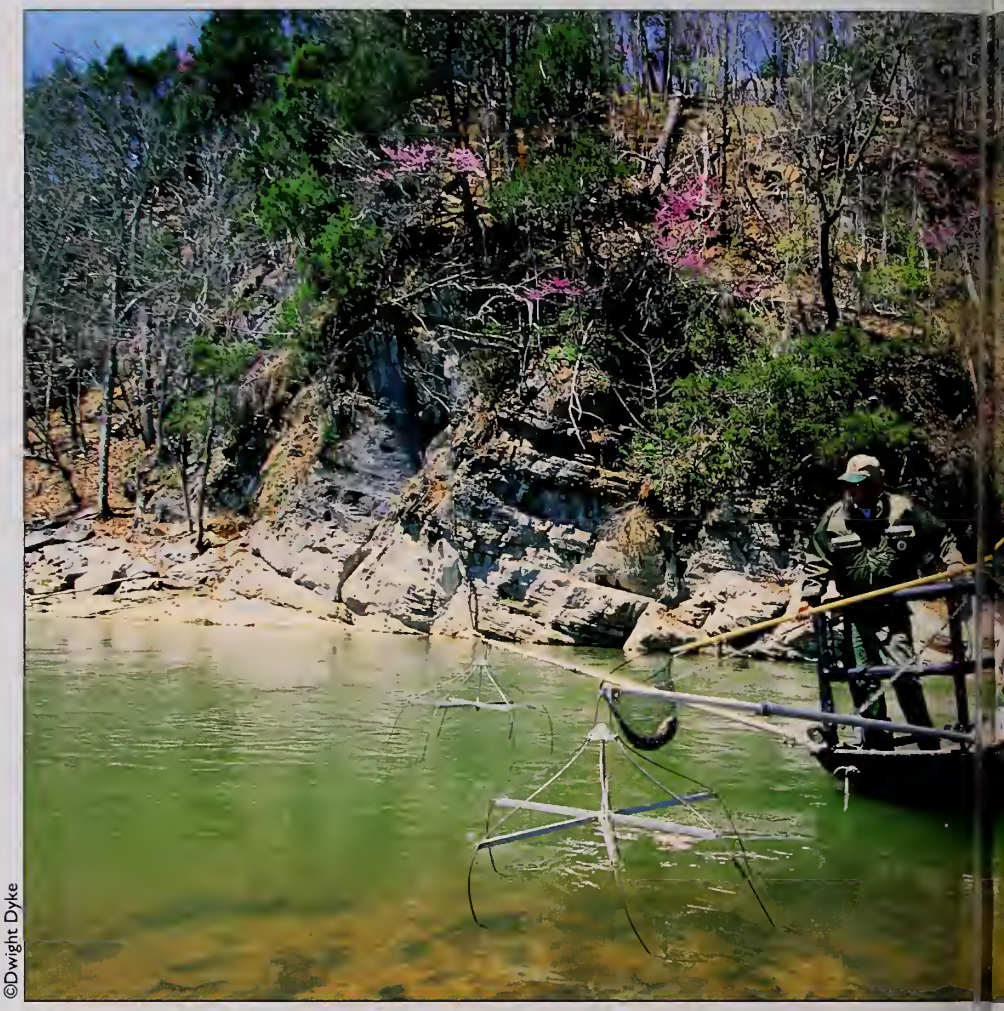
Managing Smallmouth Bass in Virginia's Rivers

©Ralph K. Hensley

Just what does it take to produce world-class sport fisheries?

by the VDIGF Smallmouth Bass Committee



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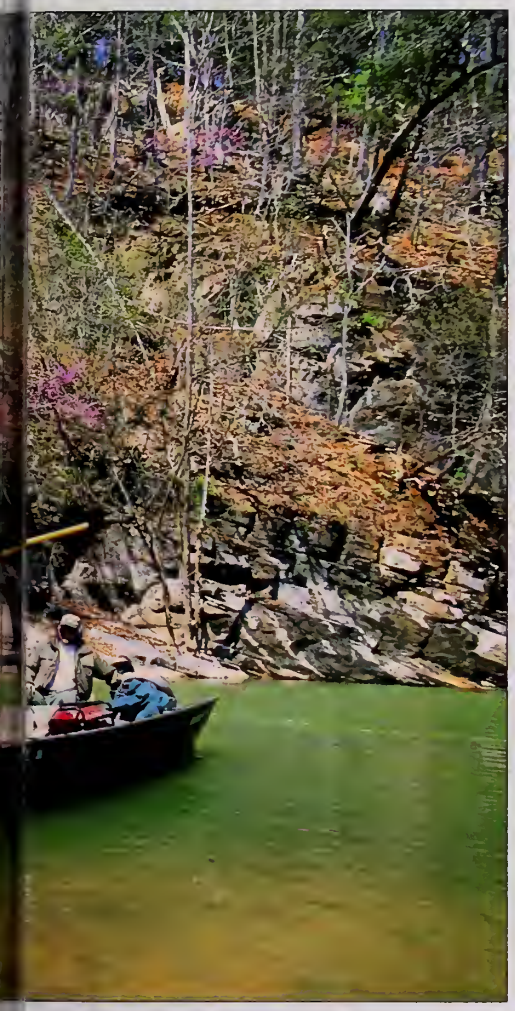
Here in Virginia, we are blessed with an abundance of aquatic resources. Some of the more important of these are the smallmouth bass fisheries in our rivers. Rivers, such as the Shenandoah, James, New, and others, provide countless hours of recreational opportunities for anglers from Virginia and elsewhere. These rivers not only furnish us with relaxing experiences and beautiful scenery, but also offer some of the better smallmouth bass fishing on the East Coast.

The Fisheries Division of the Virginia Department of Game and Inland Fisheries (VDGIF) recognizes the value of our river fisheries. We are actively managing these rivers to insure the best angling experience for everyone. Fisheries biologists are coordinating the management of smallmouth bass on the following rivers: Shenandoah, Rappahannock, Rapidan, James, Jackson, Maury, Cowpasture, Staunton, New, Clinch, Holston, and Powell. By coordinating our efforts, we can learn from each other regarding which management practices work and which ones do not. This keeps us from reinventing the wheel on a regular basis. We can also combine



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Fisheries biologists are busy each year sampling the many rivers throughout Virginia. Concentrating on smallmouth bass, biologists use techniques like electrofishing (above), which stuns the fish momentarily allowing for the measuring (right) and weighing (left) of each fish. Sampling has revealed much about the quality of the fish that are contained in these rivers

information from rivers to see if any trends are evident statewide. Our goal is to manage these smallmouth bass fisheries to their fullest potential.

Our first step was to re-examine what we already knew. We found that we knew a great deal about some of the rivers and almost nothing about others. This led us to a starting point on each system. Our next step was to set preliminary goals for managing these fisheries. Most of these revolved around getting a better understanding of the status of the smallmouth bass populations and fisheries, as well as what factors (such as fishing pressure, floods, drought, etc.) seemed to control these populations. We needed to understand how things worked before we could try to improve them. Following this, we had to decide what information we needed and the best methods for collecting it. Information exchange has been a crucial ingredient of our management efforts. Through coordination, the knowledge and experience of many biologists has been combined to provide the best possible management. Ultimately, we plan to use the data we collect to revise our management goals and objectives. Hopefully, this will lead to improved smallmouth bass fishing in our rivers.

What follows are brief summaries of smallmouth fisheries management on rivers throughout the state. This should give you an idea of what we've learned so far and a better understanding of what is happening on your favorite fishing river.

Rappahannock & Rapidan Rivers

The Rappahannock River system (the Rappahannock and Rapidan rivers) offers some of the finest smallmouth angling in Virginia. The old adage "bigger water-bigger fish" does seem to hold here, as sampling has indicated that larger fish are more prevalent closer to Fredericksburg. Indeed, many citations are caught in late February below Embrey Dam. Sampling has revealed a great deal about this quality fishery. Smallmouth appear to be growing slowly and suffering high mortality —it usually takes at least five growing seasons for a fish to reach 12 inches. Recent creel surveys (surveys of anglers fishing a particular body of water) suggest that harvest is not affecting survival of small fish, but removal of large fish may be having an impact. Natural mortality (the number of fish that die from natural causes such as starvation, predation, disease, etc.) seems to be quite high. The number of young fish each year (year class strength) seems largely tied to June flows—high water during this period can spell disaster for an entire spawn. One reason for slow growth may be lack of food. During recent sampling, 57 percent of smallmouth bass were found to have empty stomachs. Bass that did have food seemed to prefer fish (22 percent). Only six percent of smallmouth checked had recently eaten crayfish, and an additional 10 percent had consumed algae or detritus —indicating a shortage of available food. Installing fish passage at Embrey Dam will help by increasing forage,

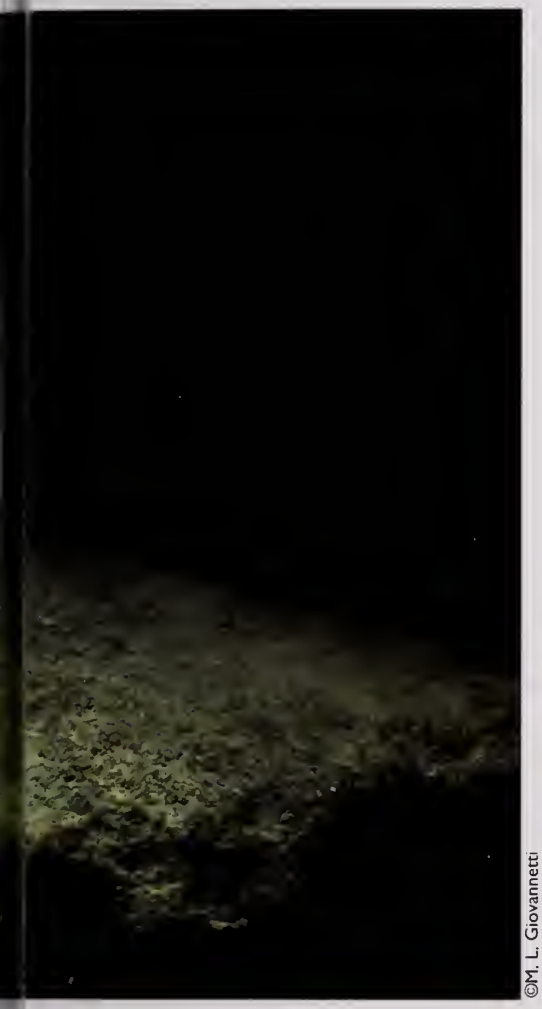
such as shad and river herring. Several more years of data are needed from this system to steer biologists on the most prudent path of smallmouth management.

Shenandoah River

Located in the beautiful Shenandoah Valley, the Shenandoah system is very scenic and is a popular fishing river despite the industrial pollutants, such as mercury and polychlorinated biphenyl (PCB), that have contaminated this system for years. Using electrofishing, eight sites on the South Fork and five sites on the mainstem Shenandoah River, have been sampled during the fall in 1996, '97, and '98. A creel survey was conducted during 1997 to determine angler success and knowledge of regulations and health advisories. The 1997 creel survey on the South Fork and mainstem Shenandoah revealed that anglers only harvest about two percent of the smallmouth bass that they catch. In essence, the river is a catch-n-release smallmouth bass fishery. Very few anglers interviewed indicated that they released fish due to the fish consumption advisories (mercury and PCBs) or VDGIF regulations. The catch-n-release ethic is the driving force behind low harvest. Seventy-five percent of the anglers interviewed indicated that they were aware that a special regulation on smallmouth bass was in effect. Surprisingly, 57 percent of these anglers did not correctly interpret the slot limit regulation. For these reasons the current 11-14" slot limit has had little effect in restructuring the smallmouth population towards larger fish. Additional data indicate that the smallmouth bass population is very dense, and growth rates are extremely slow. On average, it takes five to six growing seasons for a smallmouth bass to reach 12 inches in the South Fork Shenandoah River. We began to intensively sample the North Fork Shenandoah River in 1999. We hope to determine if the North Fork needs to be managed differently than the rest of the Shenandoah River system. Biologists plan to continue to sample the entire Shenandoah system for several years. We plan to investigate different regulation scenarios through population modeling and actual experimental sections of river.

James River

The James River is the largest river entirely in Virginia. We have been working on the James River since 1991. We've learned that reproductive success seems to be related to how high the water is during the spawning season. When you have normal flows during May and June, you get good bass reproduction. However, when you have very high or very low water during this time, reproduction is poor. This explains why fishing is better in some years than in others—it all depends on how successful the spawning was a couple of years before. Smallmouth growth rates are fair, a 12-inch fish is three to four years old and a 20-inch fish may be eight to 12 years old. Survival is also relatively low, with only about 40 percent of the fish surviving from one year to the next. For example, if you start with one million little smallmouth in 1999, there will only be about 80 of them left in 10 years. Therefore, you can see why big fish are rare. We plan to keep studying this river, and will test different regulations through population modeling and actual experiments with alternative regulations. We also want to see how the reintroduction of anadromous fish (primarily American shad) will affect the other fish in the river. A creel survey is also in the works for the James



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River and two of its major tributaries, the Jackson and Maury rivers.

Jackson River

Industrial pollution has plagued the Jackson River below Covington for years, but recent changes in water quality have triggered an improvement in the fishery. Beginning in 1996, biologists began sampling the river with boat and barge electrofishers. Smallmouth bass were larger and more abundant at Lowmoor than at either Covington or Clifton Forge. Smallmouths in the lower Jackson River tend to exhibit poor growth rates. It takes about six years for a smallmouth bass to reach 12 inches. We will look more closely at growth rates and survival when

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we have enough data. Biologists continue to work with the local government in Alleghany County to obtain more public boat access.

Maury River

The Maury River is unique among these rivers in that it begins and ends in Rockbridge County. Although smallmouth bass inhabit the entire river, fisheries studies have been focused between Rockbridge Baths and Glasgow. Three locations have been sampled annually since 1996. Smallmouth bass characteristics, such as high densities, slow growth, and high natural mortality, follow similar patterns found in other small rivers. No length limits on smallmouth bass exist on the Maury. Harvest and angling pressure have never been estimated, but the planned survey of anglers should give us this information.

Cowpasture River

The Cowpasture River flows cleanly and unimpeded over 70 miles from Williamsville to its confluence with the Jackson, but public access to the river is largely restricted. However, three large pieces of U.S. Forest Service land ensure adequate public recreation to warrant fisheries investigations. No population work on sport fish was done until 1994. At that time, VDGIF fisheries biologists conducted surveys at three locations. The data collected showed plenty of small (less than 12 inches) smallmouth bass and many rock bass in the headwaters. Smallmouth bass grow slowly in its relatively infertile waters. Because a creel survey has never been done on this river, we do not know how much fishing pressure and harvest occurs. More intensive studies are planned, but the current focus is on the Jackson River and the Maury River.

Staunton River

The Staunton River is not typically mentioned when it comes to smallmouth bass. However, they have been establishing themselves as a dominant force. This river has been producing some good catches in recent years. The best smallmouth fishing is found between Leesville Dam and Brookneal, with the most popular stretch extending between Long Island and Brookneal. Anglers considering a trip are advised to use a canoe since most of the river is not conducive to wade fishing. There is currently a consumption advisory for PCB contamination on striped bass, white bass, and carp. Additional PCB contaminant studies are being conducted and the results are expected this fall. Intensive fisheries sampling began in 1999.

New River

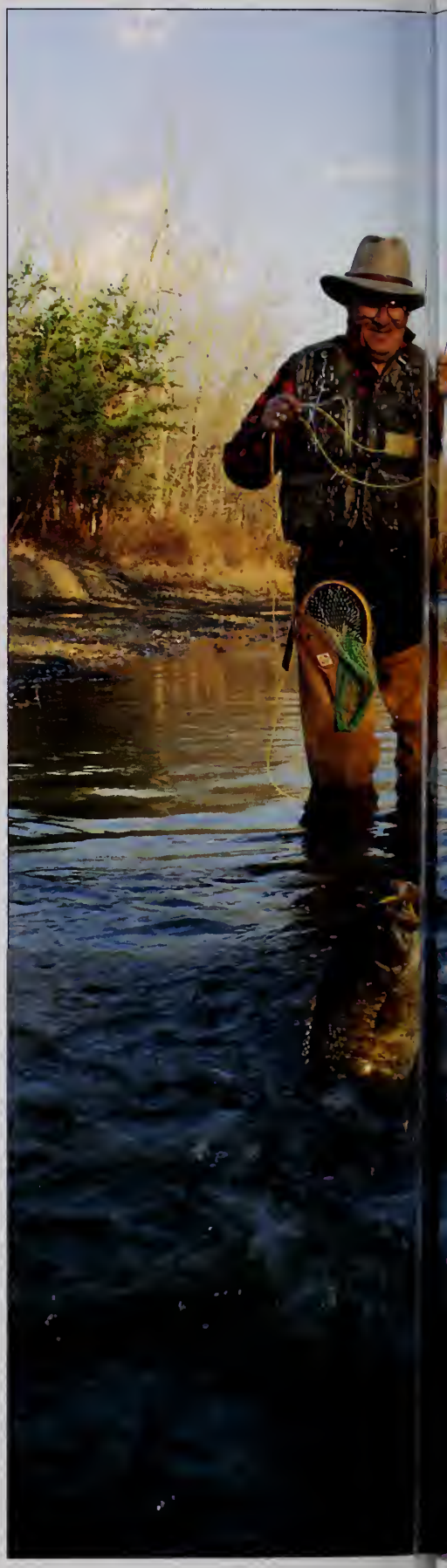
There is an abundance of large smallmouth in the New River below Claytor Lake. The current state record fish (7 pounds 7 ounces), was

Virginia Statewide Smallmouth Bass Regulations*

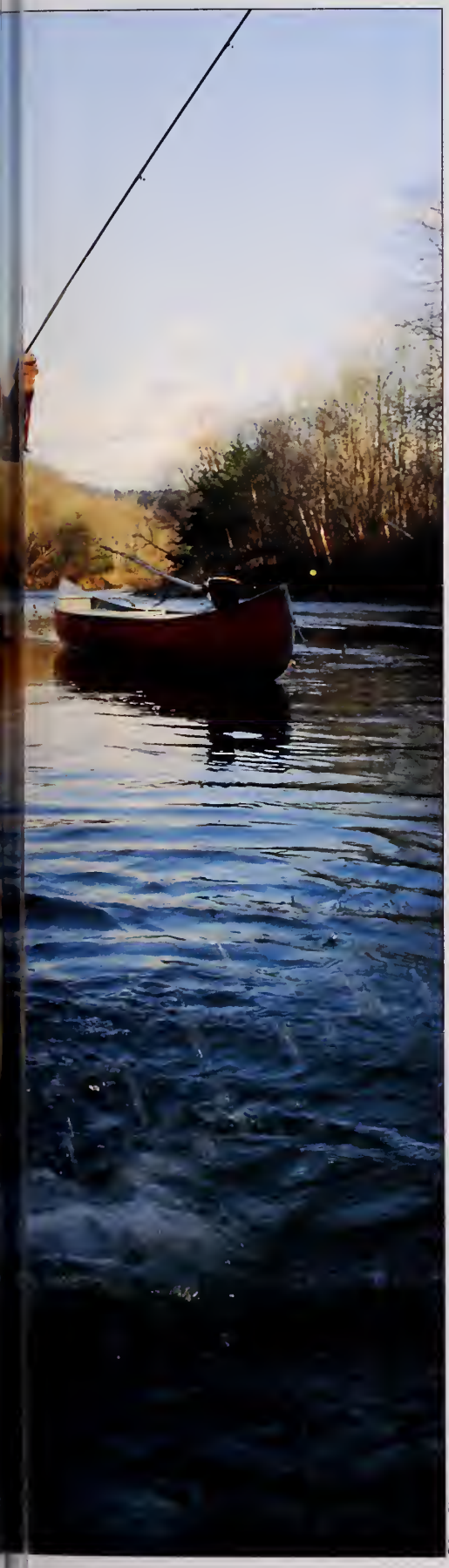
Cowpasture River Jackson River Maury River Powell River Rappahannock River	5 fish per person per day** / no size limit
Clinch River James River New River Shenandoah River	11–14" slot limit/5 fish per person per day** (all bass between 11 and 14 inches must be released)
Roanoke (Staunton) River Dan River	14" minimum size limit / 5 fish per person per day** (all bass below 14 inches must be released)
North Fork Holston River	20" minimum size limit / 1 fish per person per day (all bass below 20" must be released)
Appomattox River (from Rt. 602 bridge downstream to Brasfield Dam)	12-15" slot limit / 5 fish per person per day** (all bass between 12 and 15 inches must be released)
Claytor Lake Flannagan, Moomaw, and Philpott reservoirs	12" slot limit/5 fish per person per day

*Current research on smallmouth bass in Virginia may lead to changes in these fishing regulations. Be sure to check the 2000 Virginia Freshwater Fishing Regulations pamphlet prior to going fishing.

**Possession limits include smallmouth bass, largemouth bass, and spotted bass in aggregate.



caught in this section in 1986. The river yielded 85 citation (greater than 20 inches or 5 pounds) smallmouth bass in 1998. March, April, and May are the top months to catch trophy smallmouth bass from the river, but a good number of citation-sized "smallies" are also caught in July, August, and September. In the early 1980s almost no adult smallmouth were over 14 inches long. Between 1996 and 1998, Department fish biologist found that 10–20 percent of the adult smallmouth were over 14 inches and up to 5 percent were over 17 inches. This change in smallmouth sizes is likely the result of an 11–14 inch slot limit, which allows anglers to thin out the smaller fish. A smallmouth in the New takes about 6 years to reach 14 inches and as many as 10 years to reach 20 inches. One secret to the production of big smallmouth bass in the New River is the high survival rates we see. Our estimates of annual survival rates of smallmouth between age 2 and age 6 are about 60 percent! This survival rate is twice that observed in the James River. Sampling



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What's the Deal with Length Limits?

If you have ever thumbed through a fishing regulation pamphlet—pick your state—you will encounter a myriad of size and creel limits for most sport fish. Not only do they change between species, but also they can be quite variable between water bodies and can even change within the lake or stream you happen to be fishing. What is the purpose of these fishing regulations and are they effective?

Freshwater fisheries biologists often have their hands tied when it comes to managing systems for angling. Most impoundments and rivers have other functions that supercede recreation (hydropower, downstream flow augmentation, flood control, irrigation, and so on) and can significantly impact the quality of fishing. Management of a body of water also depends on the desires of the users as well as the biological capabilities of the system. After working around these constraints, managers often turn to length and creel (harvest) limits as tools to produce a desirable population of game fish. While creel limits (usually the number of legal fish you can take home in a given period) have their place, their function is to help reduce over-harvest of certain fish species. They seldom have much impact on the size distribution of fish in a population, while length limits do.

Length limits basically come in three types: minimum size, maximum size, and slot size limits. During the early years of fisheries management in the United States, minimum size limits were universally imposed to protect smaller, sexually immature fish and allow for the harvest of quality specimens. Not a bad idea at the turn of the century when many fish stocks were depleted and it made sense to "throw back the little ones." For decades, American anglers have been used to12-inch minimum length limits imposed on their favorite bass fishing holes, but now many have been replaced with slot size regulations. Slot sizes are used when reproduction is high and growth slow. Intermediate size fish are protected, while harvest of young fish is encouraged. If fishermen comply with the slot and harvest significant numbers of small fish, growth usually improves, and greater numbers of large fish should be available to catch. Also, trophy fish can go home with you in waters with a slot limit. Finally, maximum size limits—where fish larger than a certain size must be returned to the water immediately—are employed less frequently, but can be effective when spawning stock needs to be protected. If harvest is high, maximum size limits should help "thin out" ample numbers of young fish and improve growing conditions. This regulation also promotes "recycling" of larger, trophy-sized fish, allowing them to be caught several times by multiple anglers.

Time has changed the attitudes of the modern fishermen, as well as the quality of our freshwater environments. Many of today's anglers believe in releasing their catch every time they go out. In many instances, is the need for any length regulation necessary? Certainly not if fishing mortality (harvest) is a diminishing part of the picture. Biologists, too, have a much better understanding of how fish populations behave than their predecessors did. They know that recruitment (the number of fish that are spawned and live to be fishable), growth, and mortality are the driving biological factors that influence sport fishing. They have better sampling tools with which to gauge the health of sport fish in your favorite haunt. In the future, the type, or even the need, for length limits in certain waters will be closely scrutinized by state fisheries biologists. Hopefully, the result will be better fishing and a thinner regulation pamphlet to fit in your tackle box.

on the lower New was completed in 1999. In 2000, population modeling will be used to test if other regulations might work even better in this section of the New River. The next step will be to do similar work on the upper New River, from North Carolina to Claytor Lake, starting in 2000.

North Fork Holston River

The North Fork of the Holston River offers over 80 miles of smallmouth fishing. A special regulation area has been established from the Route 634 bridge in the town of Saltville downstream to the Tennessee State line. Within this area, anglers can keep one bass per day larger than 20 inches. A health advisory prohibiting the taking of fish for consumption was placed on this section many years ago because of mercury contamination. This river supports an excellent smallmouth bass fishery with good numbers and sizes of fish. Much of the river is shallow with abundant aquatic vegetation. This creates exciting topwater fishing, but makes sampling difficult. Biologists are trying to overcome some of these difficulties by sampling during the spring, when water levels are more suitable

Powell River

The Powell River offers some good smallmouth fishing, especially in the lower reaches near the Tennessee State line. A series of mining-related fish kills in 1996 and 1997 have complicated fisheries management in the upper portion of this river. Much of the North Fork of the Powell River suffers from sedimentation problems that limit natural reproduction of smallmouth bass and other species. Unfortunately, no long-term fisheries data are available. Boat and canoe access sites are being developed at two locations, and several other potential sites have been proposed.

Clinch River

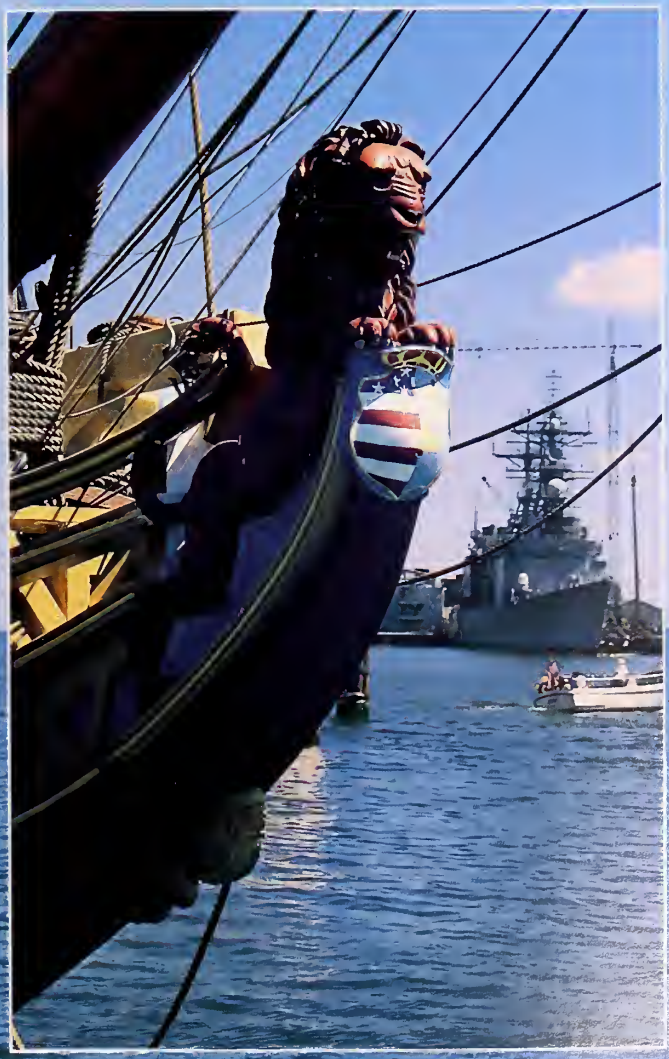
The Clinch River flows through the heart of Southwest Virginia, reaching portions of Tazewell, Russell, Wise, and Scott counties. Smallmouth are native to the Clinch, which is also home for more than 100 other species of fish. Data collected in 1998 indicate that the smallmouth fishery has recovered admirably from the catastrophic fish kills of the 1970s. Smallmouth are available throughout the river, but are generally more abundant in sections with higher gradient. The Clinch does not support the numbers of smallmouth found in the New, James, or Shenandoah rivers. However, the quality size of the smallmouth in the Clinch is impressive. Spotted bass, walleye, sauger, musky, channel catfish, and freshwater drum are just a few of the other sport fish available, so you never know what is on the other end of your line until it gets close enough for a good look. The Department and the Tennessee Valley Authority have developed several public access points along the river. A Clinch River Float Trip Guide can be obtained from the Marion Regional Office. ☐

The following are members of the VDGIF Smallmouth Bass Committee: Scott Smith, Chairman, John Odenkirk, John Kauffman, Paul Bugas, Steve Reeser, John Copeland, Tom Hampton, Dan Garren, Vic Dicenzo, Bud LaRoche and Fred Leckie.

©Soc Clay

OpSail 2000

The Largest Tall Ship and Maritime Event in History is Coming to Hampton Roads.



by Jim Crosby

This spring, Virginians will have a unique opportunity to play a role in history in the making. We just have to be there when the largest tall ship and maritime event ever, sails into Hampton Roads on June 16 for a five-day celebration. OpSail 2000 is a nationally sponsored event to celebrate the new millennium; and Hampton Roads, on behalf of the Commonwealth of Virginia, was selected as one of only eight official ports in the country to host the fleet on its historic voyage from San Juan to Miami, to our Virginia seaport. From there the OpSail fleet will go on to Baltimore, Philadelphia, New York, New London, and Portland.

Officials in Chesapeake, Hampton, Jamestown Settlement, Newport News, Norfolk, Portsmouth, Suffolk, Williamsburg, Yorktown, and Virginia Beach expect 2-3 million visitors for the event, with a projected economic impact to exceed $20 million.

Organizers of the traditional Norfolk Harborfest and Portsmouth Seawall Festival will hold their events two weeks later this year to coincide with the June 16–20 dates of the OpSail event. Can you imagine OpSail 2000 placed on top of the normal Norfolk Harborfest and Portsmouth Seawall Festival? No, it's actually beyond imagination!

Non-stop dockside, waterfront, and community festivals. Ten thousand international maritime cadets, crew, and officers onboard. World-class maritime arts, history, and science exhibitions with international cultural, commerce, and educational programs scattered about. All interwoven to explode in a spectacular OpSail Fireworks finale Saturday night, June 17 around 9 p.m.—at least 45 minutes of colorful and dynamic explosions reflected on the waters of the Elizabeth River between Norfolk and Portsmouth. Some say it will be reminiscent of an old-time sea battle fought right before your eyes.

The event will begin with a six-hour Parade of Sail up the Elizabeth River from Hampton Roads to Norfolk/Portsmouth consisting of over 200 ships and watercraft. The OpSail fleet is to include tall ships from over 50 nations plus 200 military, character, and other vessels from around the world. Ships will be berthed throughout the Hampton Roads communities and most will be open to public visitation.

This will be a unique opportunity for Virginians with any maritime interest whatsoever. Because of the anticipated attendance, it is recommended that early reservations be made for accommodations. Transient slip rental prices for those visiting by water have been doubled, or more, due to the advance demand; and hotel rooms are scarce already.

For brochures, pamphlets, and other information, you are invited to call 757-441-2940 or by computer, you can connect to www.opsailvirginia.com. ☐

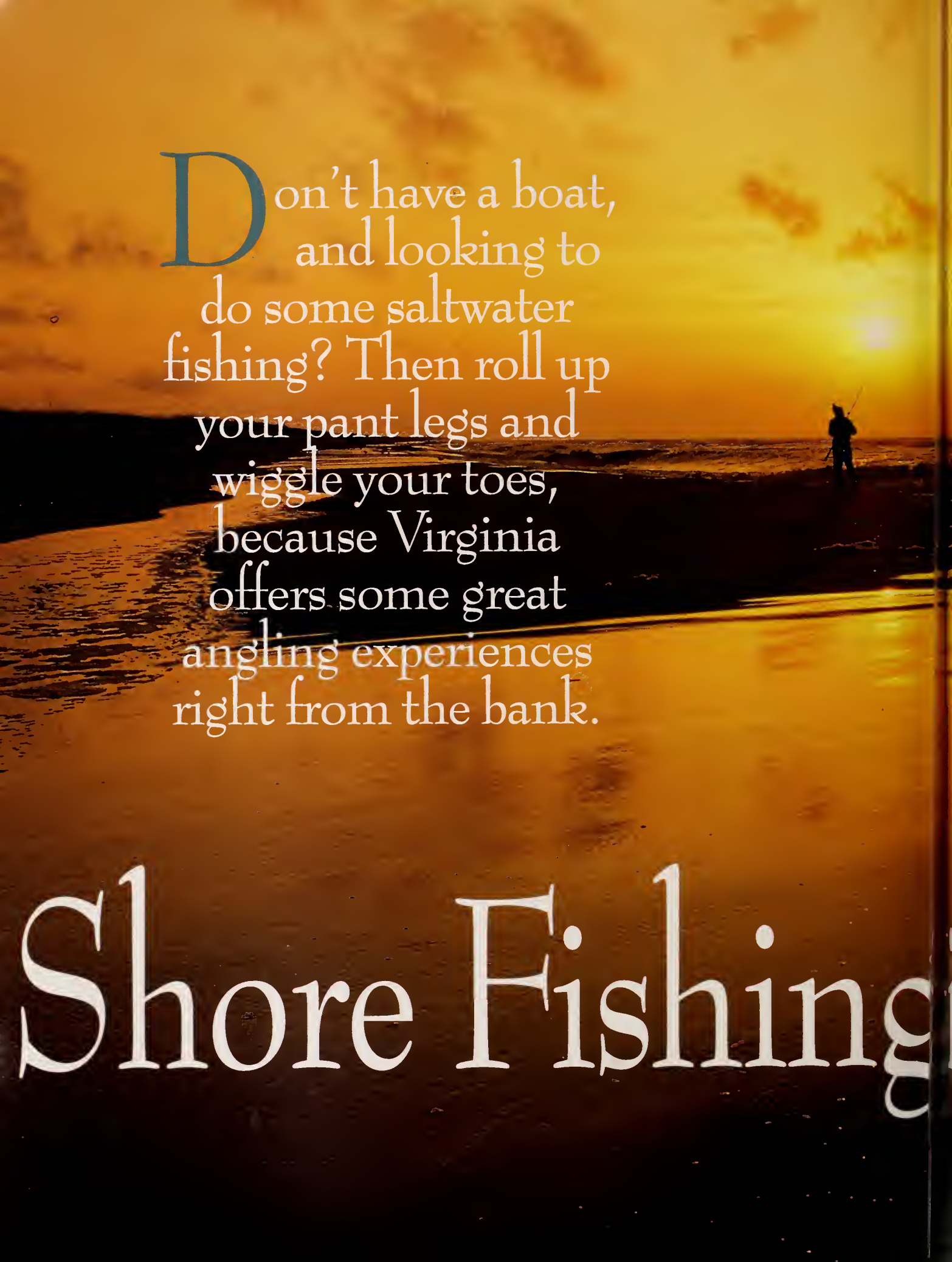
Jim Crosby is the Region 4 Boater Education Coordinator.

©Jim Crosby

©Jim Crosby

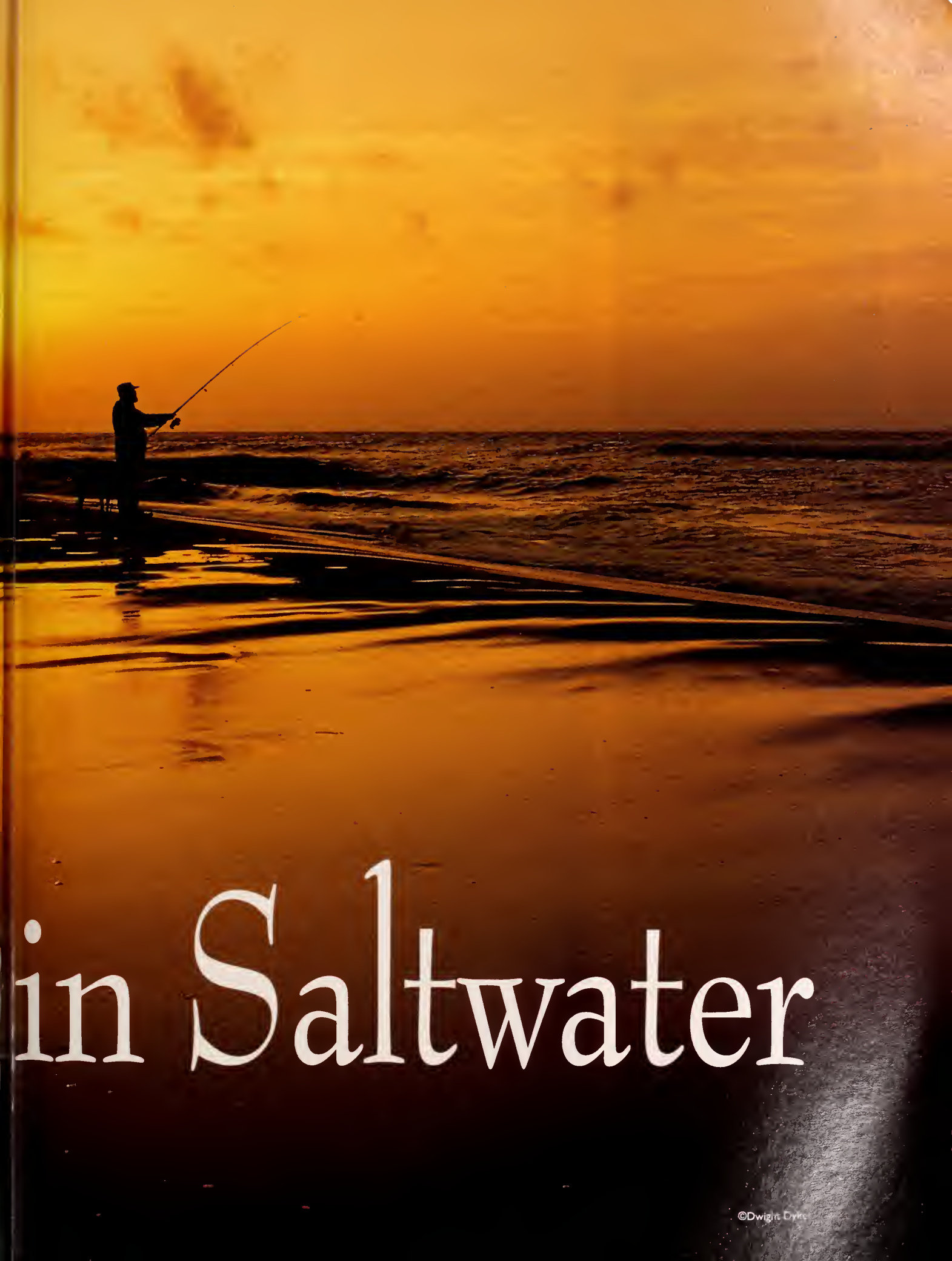
OpSail promises to be a once-in-a-lifetime event that will fill your sails with enjoyment, as some the world's best maritime memories will be on display for all to see. Background photo ©Dwight Dyke.

BOUNTY
4



Don't have a boat, and looking to do some saltwater fishing? Then roll up your pant legs and wiggle your toes, because Virginia offers some great angling experiences right from the bank.

Shore Fishing


in Saltwater
©Dwight Dyke

Lee Walker

by Jack Randolph

When it comes to saltwater fishing in Virginia we are a boat-oriented society. With the exception of fishing from the piers, nearly all of our fishing in saltwater is accomplished from boats.

If you take a look at a map of Virginia you can quickly appreciate that there is very little easy access to the oceanfront in Virginia and a great deal of what there is, is in private hands or is otherwise inaccessible. Although we have many miles of shoreline on the Chesapeake Bay and the tidal rivers, the problem of public access must be dealt with.

Virginians can get to the ocean easily at Assateague where surf fishing for the common inshore species—striped bass, red drum, bluefish, flounder, and gray trout—can be very good.

South of Assateague there are a series of barrier islands owned by The Nature Conservancy, which are open to limited public access. There is also Wreck Island, which is owned by the Virginia Department of Parks and Recreation.

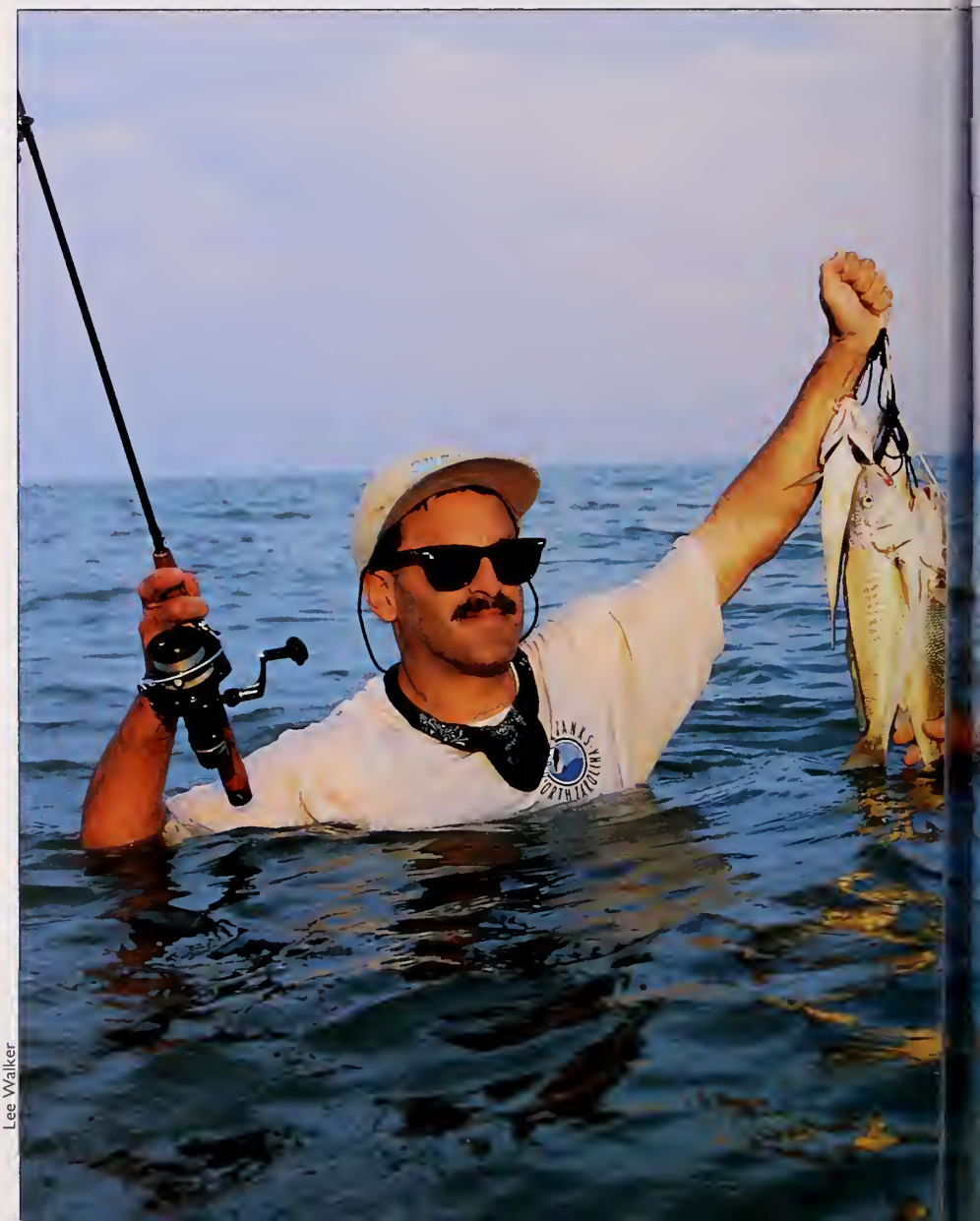
While all of these islands at times offer surf fishing as good as any on the East Coast of the United States, they all share a common problem—physical access.

All of the islands south of Assateague are accessible by small boat, but to make the trip the fisherman must navigate an obstacle course of channels, mud flats, oyster rocks, and other obstructions. He must also carefully time his arrival and departure so as to avoid being stranded on the barrier islands at low tide.

And then there are the mosquitos. I remember walking through the brush across Hog Island with a couple of biologists. Before we went 20 yards the white shirt of the fellow in front of me was black with mosquitos. Think of mosquito repellent by the gallon!

A pretty neat thing about surf fishing on the barrier islands is once you reach the beach you are pretty much home free. The mosquitos are seldom a problem after you leave the brush. Better yet, the difficulty you experience getting there cuts the crowd down and frequently you find yourself on a beach with no one but your companions—even during the prime red drum months of May, September, and October. This is quite a contrast from the cats-paw of fishing lines one encounters at prime spots on more accessible surf.

One passing word of advice when fishing the barrier islands of the Eastern Shore—bring everything you are going to need. A cast net for gathering bait is a handy addition to your kit as well as a first aid kit and perhaps a little extra food and drink just in case you misjudge



Lee Walker

the tides. You might also bring a sack for the seashells you will probably collect. Few places are better for shells.

Fishing from the beach from Fort Story all the way around to Virginia Beach can be productive at times. Spot, croaker, puppy drum, and even a few stripers are possibilities. There is frequently excellent fishing in the inlet of the Lynnhaven River in the vicinity of the Lessner Bridge. In fact, if you can gain access to the Lynnhaven Waterway on the private lands that surround it you can enjoy some rewarding fishing for flounder, speckled trout, spot, puppy drum, and croaker.

Rudee Inlet also offers fishing for the same species. Again, the fishing can be very good, especially in the fall. While most fishing is found right at the inlet near the bridge, some anglers do well with trout and puppy drum well inside Rudee.

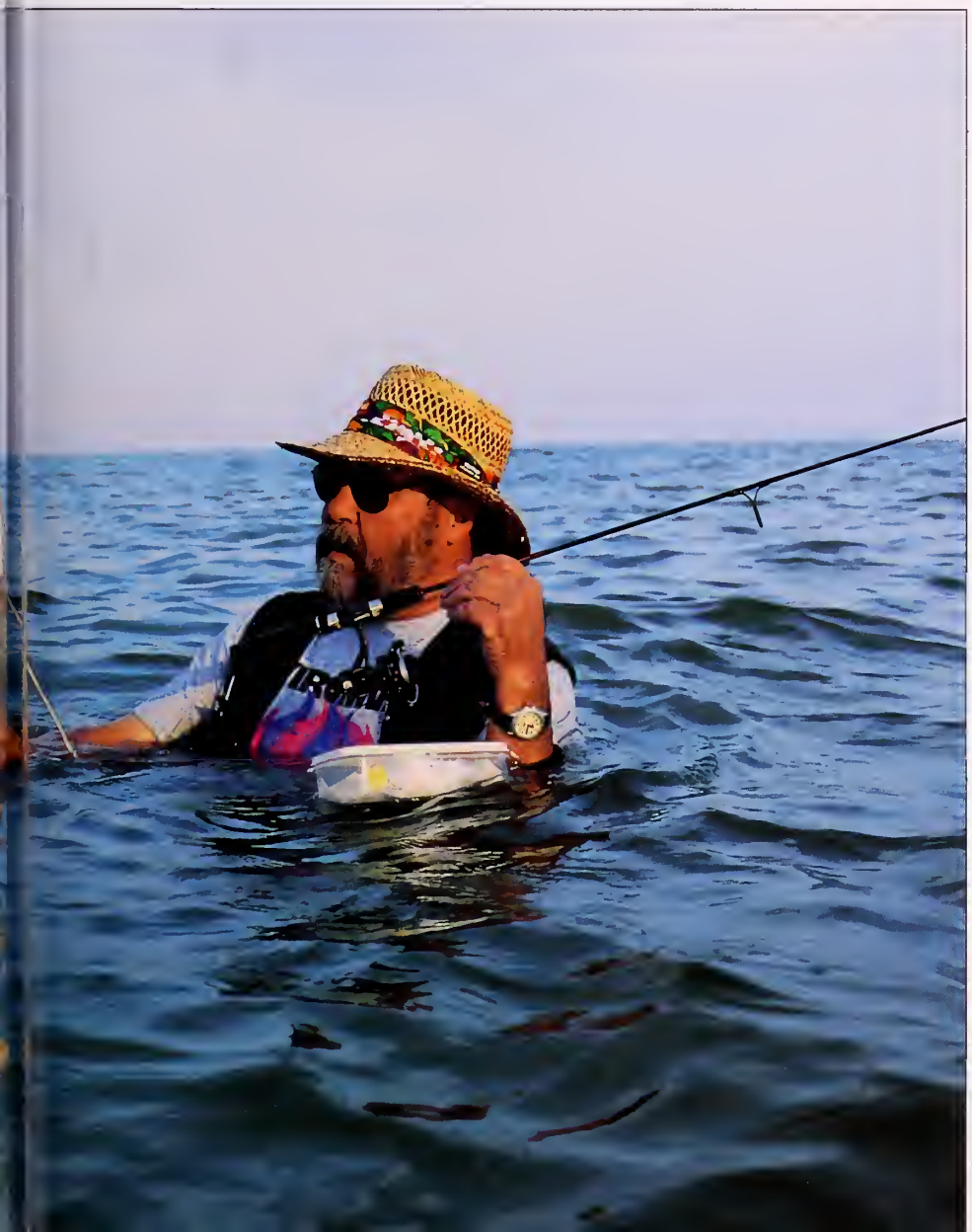
Surf casting at Sandbridge most anywhere along the beach, but particularly below the Sandbridge Pier at Little Island, can be excellent at times. Frankly, I believe this stretch of beach draws less attention than it deserves.

In addition to the locations along the oceanfront, there is often good fishing and casting from the backs of the Chesapeake Bay. With the help of a good map, and a little time devoted to exploring new locations, anglers can find some excellent places to fish along the Bay. A few areas, which are easily accessible, are Kiptopeke State Park on the Eastern Shore, and tucked away in Mathews County is a wonderful public beach.

In some locations the water near shore is too shallow for fishing and one must wade out to reach deeper water. There are places, however, where you can cast from shore and reach water deep enough to hold fish. Actually, if you watch the Internet you will see more and more reports of anglers who are surf casting in the bay.

Some anglers like to wade along the marshgrass in the tidal flats, either floating peeler crabs or casting grubs or Mirrorlures for speckled trout. Since this fishing usually involves using a boat for transportation to and from the fishing spots it probably doesn't qualify as pure bank fishing.

The tidal rivers also offer bank fishing for croaker, spot, and other species. In dry years, such as last year, some of these species will come far up the rivers. For example, shore fishermen in Surry County reported catching croaker and spot from the James River last summer.



©Dwight Dyke

Fishing the James and York River from the banks along the Colonial Parkway near Williamsburg and Yorktown is also popular. Last year there were some excellent catches of croaker by bank fishermen on the York River along the Parkway.

Often, some surprisingly good fishing can be enjoyed from the shore, particularly at night. I have

A good map and a little exploring is all you need for locating some great places to saltwater fish from shore. Some anglers (left) who don't mind getting a little wet have been known to get in a wee bit over their heads when it comes to this kind of fishing.

had some spectacular nights fishing for spot in the Potomac River in Maryland waters at Tall Timbers. Also, in Maryland waters, at Chesapeake Beach, my son and I used to fish from an old broken down pier. The pier didn't extend out very far and it was so dilapidated no one used it, but we did pretty well with stripers there. Another endearing feature was the pier was located just a stone's throw from a restaurant that served the most delicious hamburgers.

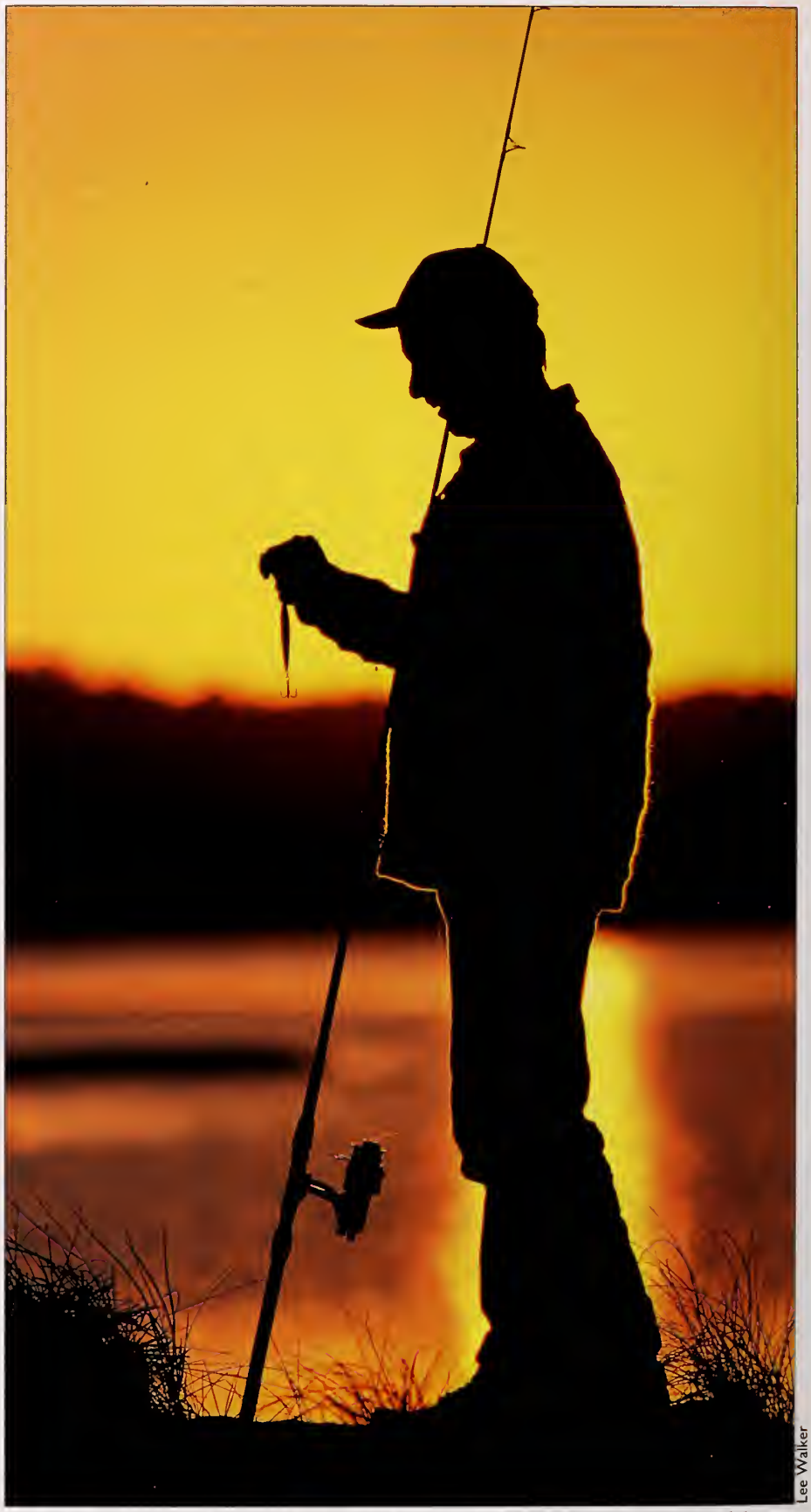
When fishing from shore don't miss an opportunity to fish at night. If you can find a location where there is a fixed light shining on the water you may find lots of baitfish drawn to the light. Where there is bait there are apt to be striped bass, trout, and even bluefish. Small bucktails worked along the dark edges of the light will usually determine which species is present.

When fishing at night be careful not to shine flashlights or automobile lights on the water. Fish are as skittish about moving lights at night as they are moving shadows during the day.

When fishing from the shore, especially at night, keep your bait and any fish you catch near you. More than once I've seen guys lose bait and even pretty good size fish to hungry feral cats. I remember one night in particular when a guy ran down a fish-stealer in the dark. He kicked at it—and connected—with a fully loaded skunk!

I don't wish to knock fishing from boats, but there is something to be said for spending a quiet evening on the bank of a river or the bay when all the gear you need you can easily carry. Fishing from shore becomes even more appealing as you get a little age on you and you have learned to pause more often, if only to smell the roses. With a little effort you may find that there is a wealth of good fishing to be found right at the tip of your toes. □

Jack Randolph is a freelance outdoor writer from Colonial Heights, Virginia who contributes to numerous newspapers and radio stations across Virginia.


Lee Walker

Fishing can be slow during the heat of the summer months. Many anglers will wait until the sun begins to set and temperatures cool, to improve their fishing success.

Journal

Lake Anna Enhanced With New Fish Structure

by C.C. McCotter

Now 28 years old, Lake Anna, in central Virginia's Louisa, Spotsylvania, and Orange counties, has become a mature impoundment as well as a heavily used recreational resource. Despite ever-increasing shoreline development and little in the way of underwater structure, though, this 9,600-acre impoundment is still one of the best on the eastern seaboard for catching a citation largemouth bass.

To ensure both visiting and local anglers will experience good fishing for years to come, a special, multi-level effort has been undertaken on Lake Anna. Now in its third year, the annual Fish Structure Enhancement Program (FSEP) is a project that combines volunteer efforts, funds, and materials from local anglers, area businesses, and government to improve Lake Anna's aquatic ecosystem.

Since the FSEP start in 1997–98, Anna has received over 500 Christmas trees on four of the original 14 Virginia Power fish structure locations. This year, local and out-of-state anglers donated $490 to buy the materials for 17 experimental "Dumbo" fish attractors to be sunk at two locations.

The Dumbos were the idea of Virginia Department of Game and Inland Fisheries Biologist Ed Steinkoenig, who noted after the effort: "This was a win-win project. It provides habitat for the fish and improves opportunities for the angler. Anytime we can get constituents involved with improving resources and allow them to gain a better understanding about the environment everyone benefits. This project initially included recycling, creating habitats, and improving angler fishing success."

Each Dumbo attractor was constructed of approximately 25 feet of perforated drain tile hose, used eight "T" connectors and needed 64 stainless steel screws to hold them together. Gravel ballast was poured into each to sink it to the bottom of the lake. Cost per unit was approximately $30.

Once the materials were collected, volunteers gathered at Anna Point Marina and constructed the attractors in an assembly line fashion. The dome-like fish structures were then dropped under the supervision of Steinkoenig and Virginia Power's Water Quality Specialist Jan Bateman and public liaison George O'Connell.

Nine Dumbos and 12 Christmas trees were sunk at a site just inside the mouth of Sturgeon Creek. Eight more were sunk in front of Dike One. Each site was located in 22–27 feet of water and should provide excellent bass, crappie, bluegill, and catfish action this spring and summer.

If you would like to help with this annual effort by donating funds or materials, please contact C.C. McCotter at (540) 872-3645. □

Hunting License Sales Increase in 25 States, Decline in 24 States

by Anne E. Denby

The National Shooting Sports Foundation's latest statistics are out for hunting license sales in 1998.

After analyzing the data from the U.S. Fish and Wildlife Service, they found that overall, hunting licenses purchased nationwide in 1998 are only down one-tenth (0.1) of a percent, from 14,906,826 to 14,891,855. Virginia was among the states that showed a slight decrease, losing approximately two and a half percent of their hunters. In Virginia and across the country, license sales have experienced a nine-year slump, while some states have experienced a gain, the overall numbers are down. Says William L. Woodfin, director of the Virginia Department of Game and Inland Fisheries (VDGIF), "This issue is a challenge for us, particularly as we enter the 21st century. We must teach that the enjoyment of hunting is the total experience, the opportunity to observe wildlife in its natural habitat, and the pleasure of spending time out of doors enjoying our natural resources."

The Department has been addressing this issue by creating innovative programs, like Becoming an Outdoors Woman, sponsored by DGIF. Even with the declines, women are doing their part and participating in this timeless sport. Women hunters are among the fastest growing segment.

One reason for the decline could be the growing economy. Booming economic times could be squeezing recreational activities into smaller and smaller available amounts of time, but hunters must make the decision to invite a non-hunter along at least once a season. Initiation of new hunters usually only occurs if someone actively hunting makes the effort to encourage their interest.

Virginia Wildlife magazine will explore this topic in more depth in the September issue with an article entitled "Can We Pass The Torch." □

States that have shown an increase are: Alabama, Arizona, Arkansas, Colorado, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Michigan, Mississippi, Nevada, New Mexico, North Carolina, Ohio, Oklahoma, Oregon, South Carolina, Texas, Utah, Vermont, Wisconsin, and Wyoming.

States that have shown a decrease are: Alaska, California, Connecticut, Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Massachusetts, Minnesota, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New York, North Dakota, Pennsylvania, Rhode Island, South Dakota, Tennessee, Virginia, and Washington.

West Virginia remained unchanged. □

Wet Feet for Water Quality

by Judy Strang

Want to come on a critter hunt? All ages can participate, it's free, and you can choose from several Saturdays each season. Since 1997, the Friends of the Pedlar River have been scientifically sampling their local streams' macro invertebrate populations, using the Izaak Walton League of America's "Save Our Streams" methods. "Bringing people into the streams helps them better understand how each of us directly affects our water quality and that of our neighbors downstream," explains Judy Strang, project manager and founder of the Pedlar River Institute, a small, non-profit group which sponsors the Friends of the Pedlar River programs. The Institute also directs free field trips for elementary school students. "Our goal is to broaden opportunities for children to learn in the 'real world' of soil, water, plants, and animals. Too often environmental education focuses on pollution and extinction. I think it is far more effective to let the magic of a diverse, natural setting speak directly to people," observes Strang.

By involving their rural community in studying local waterways, the Friends of the Pedlar River hope to raise ecological literacy. With the help of a Citizen Monitoring Grant from the Va. Dept. of Environmental Quality, and in collaboration with Lynchburg College's chemistry and environmental science departments, they are gathering data on six stream sites in the Pedlar River watershed, which empties into the James River just north of Lynchburg. Healthy stream ecosystems effectively demonstrate the numerous complex relationships upon which the health of all life depends. "Many of us aren't aware of the impact we have on these important natural systems. Here in the Pedlar River watershed, we still have healthy streams, something many communities in Virginia have already lost," says Strang. The Pedlar River Institute hopes to kindle the change in perspective needed to preserve its waters, forests, and farms for the next generation. They show why every stream matters.

The Pedlar River Institute is a 501c3 tax-exempt organization. For more information call or write Judy Strang at The Pedlar River Institute, 137 Rorytail Road, Monroe, VA 24574; (804) 922-7510. E-mail address: streamcritters@juno.com. □

Virginia Biologist Gary Norman Earns National Recognition

The Virginia Department of Game and Inland Fisheries (VDGIF) announced that Gary Norman, who

works as the Department's Upland Game Bird Project Leader, has been given the prestigious Henry S. Mosby Award by the National Wild Turkey Federation. The Henry S. Mosby Award is one of the highest honors a wildlife biologist can receive in the United States. The award is named after Dr. Henry S. Mosby, a leader in wildlife management who pioneered wild turkey research and devoted more than 40 years to wildlife conservation. The National Wild Turkey Federation (NWTF) presents the award each year to a professional wildlife researcher who has made significant contributions to wild turkey research, management, and restoration. The Mosby Award was presented to Gary Norman at the NWTF's 24th Annual Convention in Nashville, Tennessee, in late February.

Left to right: Carson Quarles, VDGIF Board Chairman; Dennis Campbell, Virginia Chapter of the NWTF; Sherry Crumley, past NWTF board member; Gary Norman, VDGIF Upland Game Bird Project Leader and recipient of the NWTF Henry S. Mosby Award, and William L. Woodfin Jr., Director, VDGIF.

Norman, who lives near Mt. Sidney, Virginia, was selected for the Mosby Award because of the key role he has played in helping restore wild turkeys in Virginia. Over the years, his research data has been instrumental in the Department's management decisions for the wild turkey. The NWTF selection committee was impressed with the impact his research has had on helping with the recovery of wild turkey populations in Virginia. His research, particularly studying relationships between the spring and fall turkey seasons, harvest data, and population dynamics has been used to guide the Department in adjusting fall seasons to benefit the wild turkey in Virginia.

Said Department Director William L. Woodfin, Jr., "This is a tremendous award for Gary personally, one of the greatest achievements in a wildlife researcher's career. It is also very significant for the Department as well. This kind of national recognition speaks to the quality of people we have working with wildlife resources here in Virginia. We're very proud to be part of this."

Bob Duncan, Director of the Department's Wildlife Division, summed up why he feels Gary Norman is so deserving of this recognition by stating, "Gary is known for quality work that translates into the population management decisions that have so positively impacted the recovery of wild turkeys in Virginia. We're pleased for him and honored that he works for the Department."

After earning a Bachelor of Science degree from West Virginia University and a Masters in Wildlife Sciences from Virginia Tech, Norman worked for West Virginia Division of Natural Resources for seven years before accepting a position with VDGIF. He joined VDGIF in 1986 and became Upland Game Bird Project Leader in 1989. It is worth noting that the estimated population of turkeys in Virginia in 1985 was 51,000. Since then, the population has steadily climbed to approximately 130,000 birds today.

When asked about the award, Norman is quick to share the recognition, pointing out that the five-year turkey research recently completed had been a cooperative effort between the Virginia Department of Game and Inland Fisheries and the West Virginia Division of Natural Resources. According to Gary Norman, "Combined we had the largest wild turkey research project ever to be conducted."

Norman is well-known in wildlife circles. In addition to serving as the VDGIF representative to the National Wild Turkey Federation's Technical Committee, he serves on the Board of Directors of the Virginia State Chapter of NWTF, and on the Southeast and Northeast Wild Turkey Technical Committees. He also serves as a representative for the Department to the Ruffed Grouse Society. He is a member of The Wildlife Society (TWS) and is a TWS Certified Biologist. He is also a member of the Wild Turkey Conservationist Hall of Fame. Gary Norman has been honored with other awards, such as the Virginia State Chapter of the NWTF Board Award, the National Capitol Chapter of the NWTF Presidential Award, and in 1995, the Department of Game and Inland Fisheries' Conservationist of the Year Award. □

Write On Target

by Lee Watts, Information Services

I have a sixteen foot canoe that I occasionally use an electric trolling motor with. Does the canoe need to be registered since it is used with an electric motor?

—Glen Knowles, West Point

Yes. Any vessel powered by a motor, including an electric trolling motor, is considered a watercraft and must be registered and titled in the Commonwealth of Virginia before they can be legally operated on public waters. Applications for registration can be obtained from any VDGIF office, DMV office, most marine dealers and any of the Department's 700 license agents.

Also, all vessels 16 feet and over are required to have a throwable flotation device in addition to a properly sized Personal Flotation Device (PFD) for each person on the vessel. All flotation devices must be U. S. Coast Guard certified. A sound producing device, such as a whistle or horn, is required for certain maneuvers such as overtaking another vessel and when passing.

The Virginia Watercraft Owner's Guide, a free publication, contains all the regulations concerning proper registration and titling, safe boating, buoy identification and equipment requirements. *The Virginia Boating Guide* contains boating information, a complete list of the boat ramps owned by the Department of Game and Inland Fisheries, and the horsepower limits of certain lakes. Both of these publications, as well as applications for registration, can be obtained by calling the Information Desk at (804) 367-9369. Additional information on boat registration and titling can be obtained by calling the Department's **Toll Free Boat Registration Hotline** at (877) 898-BOAT (2628).

Have a question? Need a regulation clarified? Need to know more about what the Department does? E-mail requests to WriteOnTarget @dgif.state.va.us or write to:Department of Game & Inland Fisheries, WriteOnTarget–Information Desk P. O. Box 11104,Richmond, VA. 23230-1104. □

The Wildlife Foundation of Virginia

During the recent session of the Virginia General Assembly, legislative members and their guests were invited to a reception sponsored by The Wildlife Foundation of Virginia. Held in recognition of the Commonwealth's wildlife resources, the reception at Richmond's Old City Hall provided an opportunity for Foundation Board members to greet lawmakers and to inform them about the work the organization has been promoting in Virginia.

Established in 1997, The Foundation is a non-profit organization whose mission is to assist in the conservation, protection, and enhancement of the wildlife and habitat resources throughout the Commonwealth of Virginia. Governed by a Board of Directors comprised of concerned citizens, elected officials, and corporate leaders from across the state, The Foundation's primary emphasis is on land acquisition and the subsequent development of wildlife habitat. This acquisition may occur through direct purchases, by donations, or by the transfer of industrial properties that are suitable for conservation programs.

The Board of Directors of The Wildlife Foundation of Virginia used the reception to update the legislature on its largest acquisition to date—the donation of nearly 2,000 acres of land in Albemarle County by Thomas Herring Forrer. Mr. Forrer contributed the gift in honor of his grandfather, Thomas Griffin Herring, an ardent and early supporter of America's resource conservation movement and a lifelong champion of hunting and fishing in Virginia. Over a 30-year period dating back to the 1950s, Mr. Forrer began buying land with the sole intent of donating it to the state for the enjoyment of future generations. Mr. Forrer completed the land acquisition project in 1985, named the resulting property Fulfillment Farms, and donated it to The Wildlife Foundation of Virginia in his grandfather's memory. Plans are currently underway to create a land management showcase there.

Moncure Duncan, Chairman of The Wildlife Foundation, urged citizens concerned about conserving Virginia's natural resources to contact The Foundation. All gifts or donations help to develop wildlife programs and facilities—including those planned for Fulfillment Farms—and will ensure that future generations of Virginians are able to enjoy fully the Commonwealth's natural heritage.

Left to right: Moncure Duncan, chairman of The Wildlife Foundation of Virginia and W. Bruce Wingo, vice chairman.

For more information about The Wildlife Foundation of Virginia, log on to www.wfva.org; or write to P.O. Box 6503, Richmond, VA 23230; or call (804) 340-1344. □

RECIPES

by Joan Cone

May Is The Month For Morels

Hunting morels and other wild mushrooms is fun, but never gather them without an expert to guide you. Some wild mushrooms will make you ill, and a few are deadly poison!

Today there are seven species of formerly wild mushrooms which have been cultivated and appear in supermarkets. These include the shiitake, portabello, oyster, crimini, agaricus, wood ear, and enoki. Since mushrooms are interchangeable, you can use these along with your morels.

The following suggestions are for handling your wild morels or other fresh mushrooms:

1. Mushrooms should be moist and firm and smell woodsy.

2. Clean them with a damp paper towel or soft brush and cut away any soft spots or clumps of sand.

3. Store your fresh mushrooms in paper bags, not plastic, in the refrigerator. They will stay fresh up to three days.

4. For preserving mushrooms, slice and saute them over medium high heat in butter or oil for about five minutes. For each cup of mushrooms, use three tablespoons of butter or oil. Cooked mushrooms will retain texture and flavor in the refrigerator for up to one week and keep in the freezer indefinitely. Never freeze uncooked mushrooms.

For those of you who are lucky enough to have morels, use them alone or mixed with other fresh mushrooms in these recipes.

Mushroom-Cheese Spread
Mushroom Ratatouille
Mushroom Tangerine Saute

Mushroom-Cheese Spread

2 cups water
½ pound morels or other fresh mushrooms
8 ounces cream cheese, room temperature
¼ teaspoon garlic powder
1 tablespoon butter
Salt and freshly ground pepper to taste

Bring 2 cups water to a boil, drop in mushrooms and blanch for 3 minutes. Drain on a cloth towel. In a food processor, blend cream cheese, garlic powder, butter, and mushrooms until smooth. Season with salt and pepper to taste. Serve with crackers. Makes 1 cup.

©Soc Clay

Mushroom Ratatouille

4 tablespoons olive oil
1 medium onion, finely chopped
1 garlic clove, finely chopped
14 ounces mixed mushrooms, uniformly sliced
2 large tomatoes, seeded and chopped
1 medium eggplant, cut into ½-inch strips
2 celery ribs, finely chopped
6 black olives, pitted
1 teaspoon dried rosemary
¾ cup white table wine
Salt and freshly ground pepper to taste

In a large heavy pan, heat oil and sauté onion and garlic over low heat until tender. Add mushrooms, tomatoes, eggplant, celery, olives, rosemary, wine, and salt and pepper. Cover and cook over low heat for 30 minutes. Vegetables cook in their own juices. To allow vegetables to retain their shape, do not stir. Serves 4.

Mushroom Tangerine Sauté

⅓ cup low sodium chicken broth
1 cup sliced onion
2 cloves garlic, minced
Grated peel of 1 tangerine
2 cups sliced, wild mushrooms or cultivated wild mushrooms, stems, removed
2 cups sliced fresh brown or white mushrooms
1 teaspoon dried basil
Salt and freshly ground pepper to taste
2 tangerines, peeled, segmented

In large skillet heat 3 tablespoons of broth over medium-high heat. Sauté onions, garlic, and tangerine peel for 3 minutes. Stir in wild mushrooms and additional broth as necessary; cook 2 minutes more. Add brown mushrooms, more broth if needed, basil, salt and pepper; cook 2 minutes. Stir in tangerine segments; cook 1 minute more. Drain and serve immediately. Makes 4 servings.

Note: For a soup, use your morels in the Mushroom-Potato Soup which appeared in last month's *Recipe* page of *Virginia Wildlife* magazine. □

1999 Angl

The Virginia Department of Game and Inland Fisheries' Hall of Fame list is a compilation of all the freshwater anglers who qualified and became a Master Angler or an Expert Angler.

To achieve the status of Master Angler I, five trophy fish of different species must be caught and registered with the Virginia Angler Recognition Program. For Master II, 10 trophy fish of different species must be caught, and so on the for Master III or IV. Expert Anglers must catch and register 10 trophy fish of the same species.

Each angler that accomplishes this feat receives a Master Angler or an Expert Angler certificate and patch. Expert patches include the species on the patch. There is no fee or application for Master or Expert.

If you have records prior to 1995 and believe you may have obtained this angling status, please call the Virginia Angler Recognition Program at (804) 367-8916 to have your records checked.

Master Level 1

Brent Anderson
Dwight Barnett
Al Berkley
Harold Bowden
Roger Bradley
Ronnie Breeden
Jeffrey Brooks
William Buisset
Allen Bures
Jack Burke III
James Burks
Jeffrey Carney
Allen Lee Coalson
Jerry Condrey
Charley Crews Jr.
Bray Diggs
Nicholas Elder
Paul Evans
Steve Ferguson
Roy Griffith Jr.
Franklin Hale
Dino Hallmark Sr.
James Hanchey
David Hill
Bubba Hill
Frank Hill III
Randy Hinman
Jamie Hostetter
Darl Hudson
Robert Hudson
Dean Irwin
Jerry Johnson
Garry Kendrick
Arlo Kunkel
George LaFrance Jr.
David Lewis Lee
John Lukomski III
Meredith Lynn
Donald MacBrair II
Carl Maggard
Clyde Mahan, Sr.
Dennis Mann
William Mapes
David Marsico
Terry Martin
Ashley Massarini
Marc McGlade
Robert Milligan Jr.
John Mitchell
Luke Mooney
Kenneth Moore
John Mullins
Jimmy Mullins
Ken Neil III
Jerry Patterson
Todd Pickett
Jack Pinter
Raymond Polk
David Ralsten
Larry Richardson
Stan Rickman
William Rule Jr.
Adam Schouten
Richard Shelton
Kevin Shepperson
Donald Shinn Jr.
Ronnie Slusher Sr.
Bryan Smith
Ron Southwick
Jerry Sowers
Alfred Sowers Jr.
Gerald Spates
John Stanley II
Nathan Street Sr.
Walter I. Stultz
David Thompson
Rodney Trail
Forrest Traylor
Brian Troxell
Harold Truitt Jr.
Donald Waite
Norman Waldron Sr.
Alan Wells
Rodney White
Woody Wiggins
Jeffrey Wines
Mark Wood
Paul Wray
Rassie Wright Sr.
Gene Yates
Ralph Young Jr.

Master Level II

Elbert Dennis Jr.
Michael Hendrick Sr.
Garnett Patton Jr.
Bill Schieman

Master III

Loyd Humphries

Expert Anglers

Largemouth Bass
Brian Atkins
Daniel Bell Jr.
Henry Blanton IV
James Crandall
Joseph Doxey Jr.
Gerald Gentry
John Hurst III
Edward Lam
Stephen Lenna
Jerry Lester
James Little
Roy Moon III
Dale O'Kelly
Don Photakos

er Hall of Fame

Todd Pickett
Bill Schieman
Steven Seay
Richard Shelton
Bernie Shults Jr.
Gerald Spates
John Taylor Jr.
Ronald Vest

Smallmouth Bass
Woodrow Bevins Jr.
Johnny Cregger
Gary Hancock
Alfred Lane Jr.
Earl Lawrence Jr.
Jerry Simms

Crappie
Joan Gray
Clyde Mahan Sr.
Garnett Patton Jr.
William Whitmer
James Worrell

Rock Bass
Joseph Flanagan Jr.
Charles Kincaid Jr.

Sunfish
Brian Atkins
Warren Baker
Keith Brewer
Richard Corbitt
Joseph Fowler
Carl Knauer
Charles Parker
Jerry Patterson
Guy Putnam Jr.
John Schools II
Richard Shelton
David West
Jeffrey Wood

White Bass
William Haines

Striped Bass
Herbert Sorrells

Channel Catfish
Brandan Geene
Michael Sielicki Jr.

Blue Catfish
Daryl Alderman
Daniel Barnes
David Bishop
Charles Bush
Gary Byrd Sr.
Melissa Campbell
Larry Campbell
Jessica Campbell
Ronald Clarke
Gregory Crismon
Marty Dabney Sr.
Robert Douglas
Chris Eberwien
David Estis
Douglas Evans
Charlie Fincham Sr.
Dana Frazier
Edward Frye Sr.
James Hazelwood Jr.
Daryel Hill
Aubrey Howerton
Christopher Ingram
William Jervis
Jerry Kennon Jr.
James Little
Steven Lovelace
Vernon McCann
Travis Minter
Gerald Myers Sr.
Kenneth Parker
James Rogers
Douglas Saunders Sr.
Gary Satterfield
Earl Williams
Arthur Wyatt Jr.

Flathead Catfish
Derek Mayhew

Rainbow Trout
Charles Edwards
Mark French
Jeffery Hodges
Charles Howdyshell
Cliff Songer
Richard Taylor Jr.

Brook Trout
Roy Edwards
Glen Grandstaff
Charles Howdyshell
James Skidmore
Gregory Spangler
Roy Spencer
James Taylor
Buddy Wilmoth

Brown Trout
Lamenthia Widener

Chain Pickerel
Richard Abrahamian
Loyd Humphries
Daniel Spotten

Muskellunge
Glenn Gardner
Mike McGuire

Walleye
John Payne
Donald Rigney

Yellow Perch
Ronald Call
Charles Conger
Louis Holmes Jr.
John Jones Sr.
Philip Morgan Jr.
Henry C. Nash Sr.
Mark Perdue
Thomas Salmon III
Michael Sielicki Jr.
Clay Welch
Charles Wiley Sr.
Mark Wood

Gar
Hans DeKoning
Norman Wray Jr.

Carp
James Ruley

1999 Angler of the Year

Species Size	Angler's Name/Home	Body of Water	Date
Largemouth Bass, 13 lbs., 10 oz., 28 ins.	Curtis Horrell, Jr., Jetersville	Briery Creek Lake	09/12/1999
Smallmouth Bass, 6 lbs., 7 oz., 24 ins.	Jerry Stoneking, Jr., Christiansburg,	New River	11/09/1999
Crappie, 4 lbs., 4 oz., 19 ¼ ins.	Richard Oakes, Dry Fork	Private Pond	05/11/1999
Rock Bass, 2 lbs., 2 oz., 15 ¼ ins.	William Garst, Sr., Roanoke	Mason Creek	07/09/1999
Sunfish, 2 lbs., 5 oz., 13 ¼ ins.	Aaron Pollard, Churchville	Private Pond	04/18/1999
White Bass, 3 lbs., 13 oz., 20 ins.	Joseph Fowler, Marion	Claytor Lake	07/04/1999
Striped Bass, 47 lbs., 5 oz., 46 ins.	Joseph Cronin, Goodview	Smith Mountain Lake	12/31/1999
White Perch, 1 lb., 12 oz.	Buck Hayes, McKenney	Buggs Island Lake	04/01/1999
White Perch, 1 lb., 12 oz., 13 ins.	Daryl Coleman, Sr., Blackstone	Twin Lakes	05/09/1999
Channel Catfish, 30 lbs., 4 oz, 40 ins.	Jeremy Christian, Sumerduck	Private Pond	07/29/1999
Blue Catfish, 71 lbs., 12 oz., 48 ¼ ins.	Hugh Self, Powhatan	James River	11/19/1999
Flathead Catfish, 52 lbs. , 48 ins.	Joseph Kay, Springfield	Fountainhead Res.	09/14/1999
Rainbow Trout, 14 lbs., 1 oz., 31 ½ ins.	William Garst, Sr., Roanoke	Private Pond	08/27/1999
Brook Trout, 5 lbs., 4 oz., 21 ¼ ins.	Michael Bauer, Emory	Cripple Creek	07/16/1999
Brown Trout, 11 lbs., 10 oz., 30 ins.	Johnny Shaffer, Sr., Iron Gate	Lake Moomaw	05/17/1999
Chain Pickerel, 6 lbs., 13 oz., 29 ¾ ins.	William Garst, Sr., Roanoke	Craig Creek	07/04/1999
Muskellunge, 34 lbs., 12 oz., 48 ins.	Paul Coleman, Vansant	Flannagan Reservoir	06/24/1999
Northern Pike, 6 lbs., 4 oz.	Quent Byer, Covington	Douthat Lake	03/08/1999
Walleye, 9 lbs. 10 oz., 29 ins.	Gene Arthur, Jr., Roanoke	Smith Mountain Lake	03/20/1999
Yellow Perch, 2 lbs., 16 ins.	Carl Maggard, Rosedale	Smith Mountain Lake	05/17/1999
Gar, 25 lbs., 48 ins.	David Hill, Danville	Dan River	04/03/1999
Bowfin, 16 lbs., 37 ins.	Eugene Wiginton, Richmond	Chickahominy Lake	04/07/1999
Carp, 51 lbs., 8 oz., 46 ¼ ins.	Bernard McMillan, Jr., Prince George	Mattaponi River	07/03/1999

Please Note: For record keeping purposes, please report any errors on your Trophy Fish Awards **immediately**. Do not delay. If you discover an error, please contact the Virginia Angler Recognition Program at 804-367-8916 or write to: VARP, P.O. Box 11104, Richmond, VA 23230. You can find all you need to know about the Trophy Fish Program at www.dgif.state.va.us.

On The Water

by Jim Crosby, Region 4 Boater Education Coordinator

So, You Got GPS!

What's a GPS? First, let me assure you that it is not a contagious disease or serious injury. If you've got one, you already know. If you don't, you might be curious enough to wonder. So, for the curious, it's a radio receiver that can tell you your exact location on this planet in latitude and longitude, the exact time of day, your altitude above sea level, your direction of travel and your speed across the face of the earth whether standing, walking, driving, or flying. A marvelous new instrument that can be as small as a cell phone held in the palm of your hand; which can receive, measure, and evaluate as many as eight to 12 radio frequency signals at once.

GPS stands for Global Positioning System and they're for people who enjoy the outdoors—boating, fishing, hiking, flying, or motoring. GPS prevents people from getting lost on the water, in the woods, or anywhere on, or above, the earth.

GPS receivers acquire signals from overhead satellites, as many as 12 at a time, out of a total of 24 orbiting around the earth. These satellites transmit precise time and position data to your GPS receiver at 1,575 MHz. The receiver uses this data to calculate your exact position to between 15 and 100 meters. They are usually accurate down to 15 meters but can be intentionally set off by as much as a football field because the signal can be degraded by the Department of Defense for national security purposes. This is a program called Selective Availability. Selective Availability only affects civilian use of GPS while military use is always accurate.

Selective Availability can even be overcome by Differential GPS (DGPS). With DGPS, a local GPS receiver on the ground (usually operated by the Coast Guard) tracks all satellites in view. Using its precise location, it calculates the current error factor and transmits it to all GPS receivers in the area. For you to take advantage of this correction, you must add a differential unit to your receiver or buy one with it built in. Unless you're a surveyor, the difference will not bother you significantly, plus the Selective Availability is due to be phased out by 2006, or earlier.

Dwight Dyke

Your first brush with a GPS can be extremely frustrating—up there on the level of VCR pre-programming, PC gyrations, and such. Almost no one masters them on the first time around. But, like most precision instruments, working with them over a period of time will breed a familiarity that will make them an extremely useful tool.

Based on my personal Garmin 45 GPS unit, their typical use goes something like this:

You turn it on and it shows a worms eye view of the overhead sky with the satellites located by their number. Along the bottom of the picture of the sky is a bar graph showing the number and signal strength of each satellite as it is acquired (received).

Once the unit has acquired reception from enough satellites to make accurate calculations, the screen automatically changes to one that shows your position in latitude and longitude, your altitude, time (based on the National Bureau of Standards Atomic Clock), compass heading, and speed, if you are moving.

You can then move to another screen that plots your course from the beginning point to a previously entered one, both of which can be identified with a name. The plot will show progress along this track line and the relationship to all other points entered on the plot. For example, you can locate your home, work location, your wife's work location, and children's school; so that driving between them will be plotted and calculated for time underway, estimated time of arrival, distance remaining, total distance traveled, compass bearing, and speed. This is like having an electronic map that shows you moving across it, and is updated every few seconds, or so. All of this technology can be yours for as little as a $100 or a little more.

It has many other screens and features too numerous to mention in this short space. An important feature is the very complete handbook that comes with them, which will help you run multiple scenarios until you master its use.

And, lastly, local Coast Guard Auxiliary units have a GPS Course available for those who need assistance in learning how to maximize their use. □

Naturally Wild

story and illustration by Spike Knuth

Tree Swallow

One of the most common and easily identifiable swallows is the tree swallow. It is also one of the hardiest, arriving early in spring along with the purple martin and the barn swallow.

The tree swallow is about six inches long, although it may look longer at rest due to its folded wings extending beyond its tail. The upper-parts of the tree swallow are iridescent greenish-blue, while its underparts are white. Its wing primaries and secondaries, as well as its tail feathers, are dusky black. The female is similar but a little duller, while young-of-the-year birds are brown or brownish-gray above and white below. Among its local names are white-breasted swallow, white-bellied swallow, eave swallow, and stump swallow.

The tree swallow is found all over North America, breeding mainly in the northern tier of states from Virginia to Colorado and the Pacific Northwest, north to Alaska and over most of Canada. Water appears to be a necessary part of the tree swallow's habitat requirements. They show a decided preference to live in and around marshes, swamps, lakes, rivers, and other wet areas, undoubtedly because of the insects inhabiting those areas. Tree swallows fly with great precision and rapid wing beats, gliding with shoulders forward and wing tips down. Their wings appear to be a little wider than other swallows as they swoop, dive, and glide after small winged insects. Their call is a liquid twittering or chattering.

The males usually precede the females, arriving as much as a month earlier. Once the females appear and mating is accomplished, the pairs go "house-hunting." In the wilds they choose natural cavities in dead or dying trees, or in abandoned woodpecker holes. Swallows are colony nesters if there's an abundance of nesting cavities available, but will take up residence as a lone nester at times. They'll fight jealously with other tree swallows for their territory.

Tree swallows will take readily to a variety of man-made boxes and will often use nest boxes set out for bluebirds. One of the most unusual nests I've encountered was in a clothespin bag hanging on a clothesline up against the back of a house. The nest itself is made up of grasses lined with feathers. Four to seven eggs are laid and sometimes more than one brood may be reared. The young grow quickly on a diet of summer insects. The only other food a tree swallow may possibly utilize are small berries, such as those of bayberry, but usually only during migration when insects are scarce and unavailable.

Come August, the tree swallows will begin staging for migration frequently alongside martins and barn swallows but not necessarily migrating with them. They'll move in large loose flocks by the thousands. They may appear to be a smaller flock just feeding locally. But if you follow a single bird, then another and another, you'll see them ultimately fly out of sight to the south and realize that you are seeing a moving mass of tree swallows migrating leisurely southward, feeding as they go. □

Close Your Eyes

©King Montgomery

I learned to fish with a plastic worm,
Working the shoreline, then structure, in turn.
But the hardest part was, with the lure out of site,
I just couldn't tell when a fish would bite.

I'd strain my eyes, intently stare,
Bought polarized glasses to cut the glare.
But still nothing helped, and it frustrated me—
How could I fish when I could not *see*?

Yet as I struggled to learn what I should do,
My fingers picked up a subtle clue.
What was that bump? A bed of grass?
A stick? Or perhaps an elusive bass!

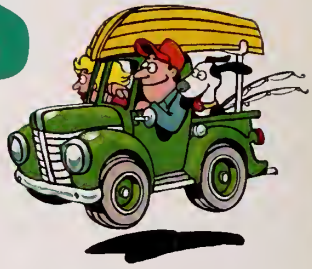
Slowly my fingertips awoke
Feeling the contact, each little poke.
Learning the difference, how each would feel;
Translating touch through my hand on the reel.

Now I choose to fish with a plastic worm,
Instinctively doing what I struggled to learn.
And I smile that I ever wanted to see—
Preferring to feel what my fingers tell me.

So in our lives we rely too much
On our sense of sight, and not of touch.
If we close our eyes, perhaps then we'll feel
What was always there, and is just as real.

Elizabeth Grant

The Governor's Angling Extravaganza



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- Three For Free Fishing Days
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- And More!

All participants of registered programs will receive a memento signed by the Governor of Virginia, James S. Gillmore III.

For more information see the Extravaganza Website at www.getfishing.state.va.us or call (804) 367-6778

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